UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XD159NM

Site Name: Shallow Loamy

Precipitation or Climate Zone: 13 to 18 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on gently sloping to moderately sloping plains and terraces. Slopes range from 0 to 9 percent but average less than 5 percent. Direction of slope varies and is not significant. Elevations range from 4,000 to 7,000 feet above sea level.

Land Form:

1. Plain
2. Terrace
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	4,000	7,000
Slope (percent)	0	9
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of the area is "semi-arid continental."

The average annual precipitation ranges from 13 to 18 inches. Variations of 5 inches, more or less, are not uncommon. Approximately 70 percent of this occurs from May through October. Most of the summer rain comes in the form of high-intensity, short-duration thunderstorms. Winter moisture is usually negligible.

Distinct seasonal changes and large annual and diurnal temperature changes characterize temperatures. The average annual temperature ranges from 55 degrees F to 60 degrees F, with extremes of –20 degrees F in the winter to 110 degrees F in the summer.

The average frost-free season is 180 to 200 days, the last killing frost being in early April and first killing frost in mid October.

Both temperature and precipitation favor warm-season, perennial plant growth. However, sufficient late winter and early spring moisture allows cool-season species to occupy a minor component within the plant community. Due to the depth of the soil, vegetation responds well to light rains. However, there is also enough depth to allow for some water storage. Strong winds from the west and southwest blow during February to June. This speeds up soil drying during a critical period for cool-season plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	160	191
Freeze-free period (days):	180	221
Mean annual precipitation (inches):	13	18

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.47	.56	21.4	56.6
February	.50	.54	23.8	62.1
March	.49	.57	28.5	68.5
April	.54	.60	35.0	76.7
May	1.13	1.44	43.2	83.5
June	1.78	1.84	51.6	92.2
July	1.87	2.98	55.7	92.1
August	2.29	3.26	54.2	90.3
September	2.67	2.80	48.2	84.3
October	1.24	1.40	37.6	76.7
November	.53	.55	27.5	65.5
December	.60	.68	21.6	57.8

Climate Stations:

				Period		
Station ID	292865	Location	Elk 2E	From: 6/1/1895	To:	12/31/00
Station ID	294112	Location	Hope	From: 03/01/19	To:	21/31/00

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:
N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils on this site are moderately deep, well drained, loams and cobble loams. Soil depth is from 18 to 30 inches, but averages 20 inches in depth over indurated caliche. Permeability is moderate and water-holding capacity is moderate. Wind and water erosion hazard can be severe.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Loam
2. Cobble loam
3.

Surface Texture Modifier:

1. Cobble
2.
3.

Subsurface Texture Group: Loam
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): 15 to 35

Subsurface Fragments <=3" (%Volume): 15 to 35
Subsurface Fragments >=3" (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Moderate	Moderate
Depth (inches):	18	30
Electrical Conductivity (mmhos/cm):	Unknown	Unknown
Sodium Absorption Ratio:	Unknown	Unknown
Soil Reaction (1:1 Water):	Unknown	Unknown
Soil Reaction (0.1M CaCl2):	Unknown	Unknown
Available Water Capacity (inches):	6	9
Calcium Carbonate Equivalent (percent):	Unknown	Unknown

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
Because of the soil depth on this site, the vegetation reflects both a shallow and deep site. Black grama and blue grama are co-dominants. The site aspect is that of a grassland with abundant shrubs. Forb production varies greatly from year to year and season to season. During years of adequate rainfall, forb production can be significant. Production and composition may vary widely with elevation

Canopy Cover:	
Trees	5 %
Shrubs and half shrubs	5 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	48
Bare ground	27
Surface cobble and stone	8
Litter (percent)	17
Litter (average depth in cm.)	3

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	375	788	1,200
Forb	40	84	128
Tree/Shrub/Vine	65	137	208
Lichen			
Moss			
Microbiotic Crusts			
Total	500	1,050	1,600

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2	Blue Grama	105 – 368	105 – 368
2	BOER4	Black Grama	105 – 368	105 – 368
3	BOCU	Sideoats Grama	53 – 105	53 – 105
4	SCBR2 MURI	Burrograss Mat Muhly	53 – 84	53 – 84
5	PAOB	Vine-mesquite	21 – 53	21 – 53
6	PLMU3	Tabosa	105 – 210	105 – 210
7	SPORO	Dropseed spp.	11 – 53	11 – 53
8	ARIST	Threeawn spp.	32 – 84	32 – 84
9	PAHA	Hall's Panicum	32 – 84	32 – 84
10	LYPH TRIDE	Wolftail Tridens spp.	11 – 32	11 – 32
11	2GRAM	Other Grasses	53 – 84	53 - 84

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	THAC	Prickleaf Dogweed	11 – 32	11 – 32
13	PACAL5	Wooly Groundsel	11 – 21	11 – 21
14	MAPIG2	Cutleaf Haplopappus	11 –21	11 – 21
15	CROTO	Croton	11 – 21	11 – 21
16	2FORBS	Other Forbs	53 – 84	53 - 84

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
17	MATR3	Algerita	21 – 74	21 – 74
18	YUCCA	Yucca spp.	21 – 53	21 – 53
19	ATCA2	Fourwing Saltbush	21 – 53	21 – 53
20	EPHED OPSP2	Ephedra spp. Cholla	11 – 32	11 – 32
21	RHUS	Sumac spp.	11 – 32	11 – 32
22	KRLA2	Winterfat	11 – 32	11 – 32
23	MIACB	Catclaw Mimosa	11 – 32	11 – 32
24	GUSA2	Broom Snakeweed	11 – 32	11 – 32
25	2SD	Other Shrubs	11 – 53	11 - 53

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses which would appear on this site include: plains bristlegrass, littleawn needlegrass, plains lovegrass, green sprangletop, curlyleaf muhly, little bluestem, silver bluestem, bottlebrush squirreltail, western wheatgrass, and New Mexico feathergrass.
Other shrubs include: pinyon, juniper, creosotebush, Bigelow sagebrush, yerba-de-pasmo, dalea spp., apacheplume, wolfberry, and oak spp.
Other forbs include: desert holly, threadleaf groundsel, globemallow, sagewort, wooly loco, wooly Indianwheat, cudweed, and mullin.

Plant Growth Curves

Growth Curve ID **4608NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Warm-season grassland with shrub component.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitat which supports a resident animal community that is characterized by pronghorn antelope, coyote, black-tailed jackrabbit, roadrunner, cactus wren, horned lark, scaled quail, Texas horned lizard and prairie rattlesnake. Mule deer use this site seasonally as do mourning doves.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	**Hydrologic Group**
Petrocalcic Calciustolls – Mesic	B
Ustallic Paleorthid – Thermic	C

Recreational Uses:

Recreation potential is limited on this site because of the lack of water and shade. It is fairly suited for hiking, backpacking, horseback riding, and picnicking. Esthetic appeal is enhances by the wide-open spaces, and many colorful wildflowers that bloom during the years of good moisture. Hunting for varmints, antelope, dove and quail is good. Trapping for fur-bearing animals is good.

Wood Products:

At higher elevations juniper and pinyon provide some firewood and fence posts.

Other Products:

Grazing:

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. When this site is mismanaged, there will be a decrease in black grama, sideoats grama, vine-mesquite, fourwing saltbush, and winterfat. Species like burrograss, mat muhly, dropseed spp., threeawn spp., and broom snakeweed will increase. Under continued retrogression there will be an increase in woody plants and a decrease in ground cover, thus increasing the erosion potential. The vegetation of this site responds well to a planned system of grazing that rotates the season of use. Goats should be considered as a brush management tool. When grazing sheep or goats, and during the calving season, predator control should be considered.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	**Ac/AUM**
100 - 76	2.8 – 4.5
75 – 51	3.5 – 6.3
50 – 26	6.0 – 12.0
25 – 0	12.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Hall's Panicum	Panicum hallii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	D	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P

Animal Kind: Livestock
Animal Type: Goats

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	D	D	D	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Littleleaf Sumac	Rhus microphylla	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Skunkbush Sumac	Rhus trilobata	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P

Animal Kind: Wildlife

Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Fourwing Saltbush	Atriplex canescens	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Croton	Croton spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **Chavez, Eddy, Lincoln, Otero**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Otero, Eddy, Chaves, Lincoln

Characteristic Soils Are:	
Petrocalcic Calciustolls	Ustallic Paleorthid
Other Soils included are:	

Site Description Approval:

Author	**Date**	**Approval**	**Date**
Don Sylvester	02/02/82	Donald H. Fulton	03/03/82

Site Description Revision:

Author	**Date**	**Approval**	**Date**
Elizabeth Wright	07/12/02	George Chavez	12/17/02